

§ 56.85–15

46 CFR Ch. I (10–1–12 Edition)

§ 56.85–15 Postheat treatment.

(a) Where pressure retaining components having different thicknesses are welded together as is often the case when making branch connections, the preheat and postheat treatment requirements of Table 56.85–10 apply to the thicker of the components being joined. Postweld heat treatment is required for Classes I, I-L, II-L, and systems. It is not required for Class II piping. Refer to § 56.50–105(a)(3) for exceptions in Classes I-L and II-L systems and to paragraph (b) of this section for Class I systems.

(b) All butt welded joints in Class I piping shall be postweld heated as required by Table 56.85–10. The following exceptions are permitted:

(1) High pressure salt water piping systems used in tank cleaning operations; and,

(2) Gas supply piping of carbon or carbon molybdenum steel used in gas turbines.

(c) All complicated connections including manifolds shall be stress-relieved in a furnace as a whole as required by Table 56.85–10 before being taken aboard ship for installation.

(d) The postheating treatment selected for parts of an assembly must not adversely affect other components. Heating a fabricated assembly as a complete unit is usually desirable; however, the size or shape of the unit or the adverse effect of a desired treatment on one or more components where dissimilar materials are involved may dictate alternative procedures. For example, it may be heated as a section of the assembly before the attachment of others or local circumferential-band heating of welded joints in accordance with 46 CFR 56.85–10, Table 56.85–10 Note (12) and 46 CFR 56.85–15(j)(3).

(e) Postheating treatment of welded joints between dissimilar metals having different postheating requirements must be established in the qualified welding procedure.

(f)–(h) [Reserved]

(i) For those materials listed under P–1, when the wall thickness of the thicker of the two abutting ends, after their preparation, is less than three-fourths inch, the weld needs no postheating treatment. In all cases,

where the nominal wall thickness is three-fourths inch or less, postheating treatment is not required.

(j) (1)–(2) [Reserved]

(3) In local postheat treatment the entire band must be brought up to uniform specified temperature over the complete circumference of the pipe section, with a gradual diminishing of the temperature outward from the edges of the band.

[CGFR 68–82, 33 FR 18843, Dec. 18, 1968, as amended by CGD 72–206R, 38 FR 17229, June 29, 1973; CGD 73–254, 40 FR 40167, Sept. 2, 1975; USCG–2003–16630, 73 FR 65185, Oct. 31, 2008]

Subpart 56.90—Assembly

§ 56.90–1 General.

(a) The assembly of the various piping components, whether done in a shop or as field erection, shall be done so that the completely erected piping conforms with the requirements of the regulations in this subchapter and with the specified requirements of the engineering design.

§ 56.90–5 Bolting procedure.

(a) All flanged joints shall be fitted up so that the gasket contact faces bear uniformly on the gasket and then shall be made up with relatively uniform bolt stress. Bolt loading and gasket compression need only be verified by touch and visual observation.

(b) When bolting gasketed flanged joints, the gasket must be properly compressed in accordance with the design principles applicable to the type of gasket used.

(c) Steel to cast iron flanged joints shall be assembled with care to prevent damage to the cast iron flange in accordance with § 56.25–10.

(d) All bolts must be engaged so that there is visible evidence of complete threading through the nut or threaded attachment.

[CGFR 68–82, 33 FR 18843, Dec. 18, 1968, as amended by USCG–2003–16630, 73 FR 65185, Oct. 31, 2008]

§ 56.90–10 Threaded piping (modifies 135.5).

(a) Any compound or lubricant used in threaded joints shall be suitable for the service conditions and shall not

react unfavorably with either the service fluid or the piping materials.

(b) Threaded joints which are to be seal welded shall be made up without any thread compound.

(c) Backing off to permit alignment of pipe threaded joints shall not be permitted.

[CGFR 68–82, 33 FR 18843, Dec. 18, 1968, as amended by USCG–2003–16630, 73 FR 65185, Oct. 31, 2008]

Subpart 56.95—Inspection

§ 56.95–1 General (replaces 136).

(a) The provisions in this subpart shall apply to inspection in lieu of 136 of ASME B31.1 (incorporated by reference; see 46 CFR 56.01–2).

(b) Prior to initial operation, a piping installation shall be inspected to the extent necessary to assure compliance with the engineering design, and with the material, fabrication, assembly and test requirements of ASME B31.1, as modified by this subchapter. This inspection is the responsibility of the owner and may be performed by employees of the owner or of an engineering organization employed by the owner, together with the marine inspector.

[CGFR 68–82, 33 FR 18843, Dec. 18, 1968, as amended by CGFR 69–127, 35 FR 9979, June 17, 1970; USCG–2003–16630, 73 FR 65185, Oct. 31, 2008]

§ 56.95–5 Rights of access of marine inspectors.

Marine inspectors shall have rights of access to any place where work concerned with the piping is being performed. This includes manufacture, fabrication, assembly, erection, and testing of the piping or system components. Marine inspectors shall have access to review all certifications or records pertaining to the inspection requirements of § 56.95–1, including certified qualifications for welders, welding operators, and welding procedures.

§ 56.95–10 Type and extent of examination required.

(a) *General.* The types and extent of nondestructive examinations required for piping must be in accordance with this section and Table 136.4 of ASME B31.1 (incorporated by reference; see 46

CFR 56.01–2). In addition, a visual examination shall be made.

(1) 100 percent radiography¹ is required for all Class I, I-L, and II-L piping with wall thickness equal to or greater than 10 mm (.375 in.).

(2) Nondestructive examination is required for all Class II piping equal to or greater than 18 inches nominal diameter regardless of wall thickness. Any test method acceptable to the Officer in Charge, Marine Inspection may be used.

(3) Appropriate nondestructive examinations of other piping systems are required only when deemed necessary by the Officer in Charge, Marine Inspection. In such cases a method of testing satisfactory to the Officer in Charge, Marine Inspection must be selected from those described in this section.

(b) *Visual examination.* Visual examination consists of observation by the marine inspector of whatever portions of a component or weld are exposed to such observation, either before, during, or after manufacture, fabrication, assembly or test. All welds, pipe and piping components shall be capable of complying with the limitations on imperfections specified in the product specification under which the pipe or component was purchased, or with the limitations on imperfections specified in § 56.70–15(b) (7) and (8), and (c), as applicable.

(c) *Nondestructive types of examinations—*(1) *100 Percent radiography.* Where 100 percent radiography¹ is required for welds in piping, each weld in the piping shall be completely radiographed. If a butt weld is examined by radiography, for either random or 100 percent radiography, the method used shall be as follows:

(i) X-ray or gamma ray method of radiography may be used. The selection of the method shall be dependent upon its adaptability to the work being radiographed. The procedure to be followed shall be as indicated in PW–51 of section I of the ASME Boiler and Pressure Vessel Code (incorporated by reference; see 46 CFR 56.01–2).

¹Where for some reason, such as joint configuration, radiography is not applicable, another approved examination may be utilized.